

ABSTRACT OF THE DISCLOSURE

A memory address space extension device enables rewrite of data area caused by wrong access from the task to be prevented. A data area access right definition table is provided in a cache. The data area access right definition table defines whether or not a task (or interruption processing) during execution is permitted to access to a data area. An address operational unit extracts data area ID from a CPU address inputted from a CPU 1. A register bank control unit refers to above described definition table within the cache. The register bank control unit judges the access right of the task for the data area from both of a task ID (or interruption number of an interruption processing) of the task during execution stored in the ID register, and the data area ID extracted previously. When the access right is not permitted, system error occurs, while when the access right is permitted, processing for converting above-described CPU address into an extended address is implemented.